



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,420	11/20/2003	Brian Jeffrey Corcoran	TUC920030130US1	9652
45216	7590	06/20/2006	EXAMINER	
KUNZLER & ASSOCIATES 8 EAST BROADWAY SUITE 600 SALT LAKE CITY, UT 84111			CHANNAVAJJALA, SRIRAMA T	
			ART UNIT	PAPER NUMBER
			2166	

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/718,420	<b>Applicant(s)</b> CORCORAN ET AL.	
	<b>Examiner</b> Srirama Channavajjala	<b>Art Unit</b> 2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. Claims 1-40 are presented for examination.

***Drawings***

2. The Drawings filed on 11/20/2003 are acceptable for examination purpose

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. ***Claims 1-40 are rejected under 35 U.S.C. 101 because invention is directed to non-statutory subject matter.***

***As set forth in MPEP 2106(II)A:***

*Identify and understand Any Practical Application Asserted for the Invention The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant*

*believes the claimed invention is useful.*

*Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material **stored in a computer-readable medium does not make the invention eligible for patenting.** For example, a claim directed to a word processing **file stored on a disk may satisfy the utility** requirement of 35 U.S.C. 101 since the information stored may have some **“real world”** value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 **does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a “useful, concrete and tangible” result to have a practical application.***

4. Regarding claim 1, “A self-descriptive binary data structure for communicating binary data, the data structure comprising:

a plurality of data segments, each of the plurality of data segments comprising a segment header and a data field, the segment header 'descriptive of the corresponding data segment;

.a target data set within the data field; and

a data structure descriptor descriptive of the data structure, the data structure descriptor configured to identify the location of the target data set within the data field.”,

Art Unit: 2166

is directed to “abstract idea” because all of the elements in the claim 1 would reasonably be interpreted by one of ordinary skill in light of the disclosure as software, such that self-descriptive binary data structure steps is software, per se, is “non-statutory subject matter” and **claim 1** do not have “practical application” because the “final result” by the claimed invention in the claim 1 elements particularly “a *data structure descriptor descriptive of the data structure, the data structure descriptor configured to identify the location of the target data set within the data field*” merely code or instructions or a data structure [the IEEE definition of which can be found in the Interim Guidelines, Annex IV, page 50, and the in MPEP 2106], or merely non-functional descriptive material for example data or non-functional arrangement of data structure but not producing “useful, tangible and concrete” result, therefore, claim 1 is a non-statutory subject matter. The claimed invention is subject to the test of State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Specifically State Street sets forth that the claimed invention must produce a “**useful, concrete and tangible result.**” The **Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility** states in section IV C. 2 b. (2) (on page 21 in the PDF format):

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a § 101 judicial exception, in that the process claim must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72,

Art Unit: 2166

175 USPQ at 676-77 (invention ineligible because had “no substantial practical application.”).

Claim 1 have the result of producing “real-world” results related to a *data structure descriptor descriptive of the data structure, the data structure descriptor configured to identify the location of the target data set within the data field*”, however the claims do not specify that the result (data structure descriptor related to locating target data set) neither displayed nor outputted to a user or otherwise used in the real world, furthermore, no *use of “data structure descriptor configured to identify the location of the target data set within the data field”* is set forth that would constitute a real-world result. Thus the claimed result is not tangible and thus the claimed result is not a **“useful, concrete and tangible result.”** The court in State Street noted that the claimed invention in Alappat constituted a practical application of an abstract idea because it produced a *useful, concrete and tangible result* the display of a smoothed heart beat to a system user. The Federal Circuit further ruled that it is of little relevance whether a claim is directed to a machine or process for the purpose of a § 101 analysis. AT&T, 172 F.3d at 1358, 50 USPQ2d at 1451 (see the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, Annex II).

The examiner reviewed the specification but was unable to find a practical real-world use of the result . If the applicant is able to find one and inserts it into the claims provide the location the element[s] is found in the specification.

In view of above analysis of claims 2-12 depend from claim 1 is also rejected

5. Regarding claim 13, "A system for communicating binary data using a self-descriptive binary data structure, the system comprising: a communications channel;

a source communication device connected to the communications channel and configured to transmit a self-descriptive binary data structure; and

a target communication device connected to the source communications device via the communications channel and configured to receive the self-descriptive binary data structure from the source communication device", is directed to "abstract idea" because all of the elements in the claim 13 would reasonably be interpreted by one of ordinary skill in light of the disclosure as software, such that system for communicating binary data using a self-descriptive binary data structure steps is software, per se, is "non-statutory subject matter" and **claim 13** do not have "practical application" because the "final result" by the claimed invention in the claim 13 elements particularly "*a target communication device connected to the source communications device via the communications channel and configured to receive the self-descriptive binary data structure from the source communication device*" merely receiving code or instructions or a data structure [*the IEEE definition of which can be found in the Interim Guidelines, Annex IV, page 50, and the in MPEP 2106*], or merely non-functional descriptive material for example data or non-functional arrangement of data structure but not

Art Unit: 2166

producing “**useful, tangible and concrete**” result, therefore ,claim 13 is a

**non-statutory subject matter**. The claimed invention is subject to the test of State

Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Specifically State Street sets forth

that the claimed invention must produce a “**useful, concrete and tangible result.**”

**The Interim Guidelines for Examination of Patent Applications for Patent Subject**

**Matter Eligibility** states in section IV C. 2 b. (2) (on page 21 in the PDF format):

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a § 101 judicial exception, in that the process claim must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had “no substantial practical application.”).

Claim 13 have the result of producing “real-world” results related to “*a target communication device connected to the source communications device via the communications channel and configured to receive the self-descriptive binary data structure from the source communication device*”, however the claims do not specify that the result (self-descriptive binary data structure from the source communication device) neither displayed nor outputted to a user or otherwise used in the real world, furthermore, no use of “*a target communication device connected to the source communications device via the communications channel and configured to receive the self-descriptive binary data structure from the source communication device*” is set forth



Art Unit: 2166

that would constitute a real-world result. Thus the claimed result is not tangible and thus the claimed result is not a **“useful, concrete and tangible result.”** The court in *State Street* noted that the claimed invention in *Alappat* constituted a practical application of an abstract idea because it produced *a useful, concrete and tangible result* the display of a smoothed heart beat to a system user. The Federal Circuit further ruled that it is of little relevance whether a claim is directed to a machine or process for the purpose of a § 101 analysis. *AT&T*, 172 F.3d at 1358, 50 USPQ2d at 1451 (see the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, Annex II).

The examiner reviewed the specification but was unable to find a practical real-world use of the result . If the applicant is able to find one and inserts it into the claims provide the location the element[s] is found in the specification.

In view of above analysis of claims 14-17 depend from claim 13 is also rejected.

6. Regarding claim 18,29, 40 “A method for communicating binary data using a self-descriptive binary data structure, the method comprising:

generating a plurality of data segments, each of the plurality of data segments comprising a segment header and a data field, the segment

header descriptive of the corresponding data segment;

Art Unit: 2166

attaching a data structure descriptor to the plurality of data segments, the data structure descriptor descriptive of the data structure; identifying a target data set within the data field; and

storing a location of the target data set in the data structure descriptor”.

is directed to “abstract idea” because all of the elements in the claim 18,29,40 would reasonably be interpreted by one of ordinary skill in light of the disclosure as software, such that method for communicating binary data using a self-descriptive binary data structure steps is software, per se, is “non-statutory subject matter” and **claim 18,29,40** do not have “practical application” because the “final result” by the claimed invention in the claim 18,29,40 elements particularly *“attaching a data structure descriptor to the plurality of data segments, the data structure descriptor descriptive of the data structure; identifying a target data set within the data field; and storing a location of the target data set in the data structure descriptor”* merely storing location of the target data set in the data structure” is a code or instructions or a data structure [the IEEE definition of which can be found in the Interim Guidelines, Annex IV, page 50, and the in MPEP 2106], or merely non-functional descriptive material for example data or non-functional arrangement of data structure but not producing **“useful, tangible and concrete”** result, therefore, claim 18,29,40 is a **non-statutory subject matter**. The claimed invention is subject to the test of State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Specifically State Street sets forth that the claimed invention must produce a **“useful, concrete and tangible result.”** The Interim Guidelines for

**Examination of Patent Applications for Patent Subject Matter Eligibility** states in section IV C. 2 b. (2) (on page 21 in the PDF format):

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a § 101 judicial exception, in that the process claim must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had “no substantial practical application.”).

Claim 18,29,40 have the result of producing “real-world” results related to “attaching a data structure descriptor to the plurality of data segments, the data structure descriptor descriptive of the data structure; identifying a target data set within the data field; and storing a location of the target data set in the data structure descriptor”, however the claims do not specify that the result, but merely storing location of the target data set in the data structure descriptor or otherwise used in the real world, furthermore, no *use of* “storing location of the target data set in the data structure descriptor” is set forth that would constitute a real-world result. Thus the claimed result is not tangible and thus the claimed result is not a **“useful, concrete and tangible result.”** The court in State Street noted that the claimed invention in Alappat constituted a practical application of an abstract idea because it produced a *useful, concrete and tangible result* the display of a smoothed heart beat to a system user. The Federal Circuit further ruled that it is of little relevance whether a claim is directed to

Art Unit: 2166

a machine or process for the purpose of a § 101 analysis. AT&T, 172 F.3d at 1358, 50 USPQ2d at 1451 (see the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, Annex II).

The examiner reviewed the specification but was unable to find a practical real-world use of the result. If the applicant is able to find one and inserts it into the claims provide the location the element[s] is found in the specification.

In view of above analysis of claims 19-26, 30-39 depend from claim 18,29 respectively is also rejected

**Note: Claim 29-36**,: examiner reviewed the specification but unable to find ***“computer readable storage medium”*** .

7. Regarding claim 27, “A method for communicating binary data, the method comprising:

providing a self-descriptive binary data structure at a source communications device, the self-descriptive binary data structure having a customizable directory descriptor, the customizable descriptor configured to provide a directory of the data stored in each of the data fields within the data structure;

communicating the self-descriptive binary data structure between source communication device and a target communication device via a communications network; and'

processing the self-descriptive binary data structure at the target communications device;;

executing a bootstrap executable, the bootstrap executable configured to reference the customizable directory descriptor and to identify a location of a second target data set within the data structure using the customizable directory descriptor”, is directed to “abstract idea” because all of the elements in the claim 27 would reasonably be interpreted by one of ordinary skill in light of the disclosure as software, such that method for communicating binary data providing a self-descriptive binary data structure steps is software, per se, is “non-statutory subject matter” and **claim 27** do not have “practical application” because the “final result” by the claimed invention in the claim 27 elements particularly “*executing a bootstrap executable, the bootstrap executable configured to reference the customizable directory descriptor and to identify a location of a second target data set within the data structure using the customizable directory descriptor*” merely executing code or instructions or a code within data structure [the IEEE definition of which can be found in the Interim Guidelines, Annex IV, page 50, and the in MPEP 2106], or merely non-functional descriptive material for example data or non-functional arrangement of data structure but not producing “**useful, tangible and concrete**” result, therefore, claim 27 is a **non-statutory subject matter**. The claimed invention is subject to the test of State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Specifically State Street sets forth that the claimed invention must produce a “**useful, concrete and tangible result.**” The Interim Guidelines for

Art Unit: 2166

**Examination of Patent Applications for Patent Subject Matter Eligibility** states in section IV C. 2 b. (2) (on page 21 in the PDF format):

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a § 101 judicial exception, in that the process claim must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had “no substantial practical application.”).

Claim 27 have the result of producing “real-world” results related to “*executing a bootstrap executable, the bootstrap executable configured to reference the customizable directory descriptor and to identify a location of a second target data set within the data structure using the customizable directory descriptor*”, however the claims do not specify that the result (executing a bootstrap executable.....) neither displayed nor outputted to a user or otherwise used in the real world, furthermore, no use of “*executing a bootstrap executable, the bootstrap executable configured to reference the customizable directory descriptor and to identify a location of a second target data set within the data structure using the customizable directory descriptor*” is set forth that would constitute a real-world result. Thus the claimed result is not tangible and thus the claimed result is not a “**useful, concrete and tangible result.**”

The court in State Street noted that the claimed invention in Alappat constituted a practical application of an abstract idea because it produced a *useful, concrete and*

Art Unit: 2166

*tangible result* the display of a smoothed heart beat to a system user. The Federal Circuit further ruled that it is of little relevance whether a claim is directed to a machine or process for the purpose of a § 101 analysis. AT&T, 172 F.3d at 1358, 50 USPQ2d at 1451 (see the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, Annex II).

The examiner reviewed the specification but was unable to find a practical real-world use of the result. If the applicant is able to find one and inserts it into the claims provide the location the element[s] is found in the specification.

In view of above analysis of claim 28 depend from claim 27 is also rejected.

**For "General Analysis for Determining Patent-Eligible Subject Matter", see 101 Interim Guidelines as indicated below:**

<<<http://www.uspto.gov/web/offices/pac/dapp/ogsheet.html>>>

**No new matter should be entered**

### ***Claim Objections***

8. Claim 27 is objected to because of the following informalities: At page 24, claim 27, line 11, "processing....communications device" ","" colon is missing. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 29-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. claims 29-36 preamble is directed to **"computer readable storage medium"**, however, in the specification, ***"computer readable storage medium"*** is not defined, described.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claim 29-36 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
12. Claims 29-36 preamble is directed to "computer readable storage medium". It is not clear what is meant by "computer readable storage medium", for compact prosecution, examiner assumes, and treated "computer readable storage medium"



Art Unit: 2166

corresponds to any physical medium for example computer disk[s], or computer hard drive and like .

***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

***14. Claims 1-14,16-23,25-27,29-36,38-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Sharon et al. [hereafter Sharon ], US Publication No. 20030229707 filed on June 6, 2002, published on Dec 11,2003.***

15. As to claim 1, Sharon teaches a system which including ‘a self-descriptive binary data structure for communicating binary data, the data structure ‘ [fig 5, page 2, col 2, col 1, 0022, line 1-2, 0026, line 1-4], self-descriptive binary data structure corresponds to Sharon’s fig 5, s-records, because “s-records” are essentially character strings made of several fields which identify the record type, record length, memory address, code, data and checksum, furthermore, each byte of binary data is encoded as a 2-character hexadecimal number is part of the S-record data structure [page 2, 0016-0019];

'a plurality of data segments, each of the plurality of data segments comprising a segment header and a data field, the segment header ' descriptive of the corresponding data segment' [page 2, col 1, 0015, line 2-5], Sharon specifically teaches records holding a description of file or a data containing program code in a specific location or address, further data segment typically one of the section of data or code as detailed in page 2, col 1, 0015;

.a target data set within the data field [page 2, col 1, line 3-5], target data set corresponds to target system where data to be loaded as detailed in page 2, col 1, line 3-5;

a data structure descriptor descriptive of the data structure, the data structure descriptor configured to identify the location of the target data set within the data field ' [page 2, col 1, 0020], .Sharon specifically teaches memory address for each S- record is part of the data structure that identifying the start address, further descriptor or header is integral part of memory.

16. As to claim 2, Sharon disclosed 'a customizable directory descriptor, the customizable descriptor configured to provide a directory of the data stored in each of the data fields within the data structure [page 2, col 1, 0021].

Art Unit: 2166

3. As to claim 3, Sharon disclosed 'wherein the target data set comprises a bootstrap executable, the bootstrap executable configured to reference the customizable directory descriptor and to identify a location of a second target data. set within the data structure using the customizable directory descriptor' [page 1, col 1, 0004, page 2, col 1, 0021].

17. As to claim 4, Sharon disclosed wherein the bootstrap executable is further configured to access the second target data set within the data structure' [page 1, col 1, 0004].

18. As to claim 5, Sharon disclosed ' a data structure version descriptor configured to indicate a version of the data structure' [page 1, col 1, 0003].

19. As to claim 6, Sharron disclosed ' a data structure name descriptor configured to indicate a name of the data structure' [page 1, col 2, 0013, line 1-2]

20. As to claim 7, Sharon disclosed, 'a data structure type descriptor configured to indicate a type of the data structure' [page 1, col 2, 0013]..

21. As to claim 8, Sharon disclosed ' a data structure count descriptor configured to indicate a number of the plurality of data segments within the data structure' [page 2, col 1, 0015, line 2-5].

Art Unit: 2166

22. As to claim 9, Sharon disclosed ' the target data set is an executable' [page 1, col 1, 0004]..

23. As to claim 10, Sharon disclosed 'the target data set is a code image' [page 1, col 2, 0012, line 8-16], code image corresponds to Sharon's "Intel standard Hex files" used to burn the program into EPROM,PROM as detailed in page 1, col 2, 0012, line 8-16]

24. As to claim 11, Sharon disclosed 'one of the plurality of data segments is an alignment data segment configured to align the size of the data structure for at least one of error detection and correction' [page 1, col 2, 0014].

25. As to claim 12, 35, Sharon disclosed the data segment header comprises a flag field configured to store a flag, the flag descriptive of the data stored in the data field' [page 2, col 1, 0022].

26. As to claim 13, Sharon teaches a system which including 'a system for communicating binary data using a self-descriptive binary data structure' [page 1, col 1, 0009, col 2, 0012, line 1-3, fig 1, fig 5], Sharon teaches exchange of programs and data between computer systems, more specifically , files typically include ASCII encodings of hex instruction codes for transmission over a data link for example using RS-232

[see 0003], data structure corresponds to S-record or HEX record data structure as detailed in page 1, 0009;

‘the system comprising: a communications channel’ [page 1, col 1, 0003, line 12-13, fig 1, col 2, line 1-3, element 104, communications channel corresponds to communications link as detailed in fig 1, element 104;

‘a source communication device connected to the communications channel and configured to transmit a self-descriptive binary data structure, and a target communication device connected to the source communications device via the communications channel and configured to receive the self-descriptive binary data structure from the source communication device’ [fig 1, page 1, col 2, 0012], Sharon specifically teaches host and target computer system are connected through communication link, further both host and target system loading, checking and parsing programs received over communication link, further Sharon specifically suggests S-record and Intel HEX formats and other text based formats for transport of programs and data to embedded target system, that corresponds to configured to receive the self-descriptive binary data structure from the source communication device. .

27. As to the claim 14, Sharon disclosed ‘wherein the source communication device is further configured to generate the self-descriptive binary data structure’ [page 1, col 2, 0012, line 8-10]..

Art Unit: 2166

28. As to claim 16, Sharon disclosed ' wherein the target communication device is further configured to process an executable, the executable stored in the self-descriptive binary data structure' [page 1, col 2, 0012, line 1-8].

29. As to claim 17, Sharon disclosed ' wherein the executable comprises a bootstrap executable, the bootstrap executable configured to access a code image within the data structure' [page 1, col 1, 0004].

30. As to claim 18, 29,40, Sharon teaches a system which including 'a method for communicating binary data using a self-descriptive binary data structure' [fig 5, page 2, col 2, col 1, 0022, line 1-2, 0026, line 1-4], self-descriptive binary data structure corresponds to Sharon's fig 5, S-records, because "s-records" are essentially character strings made of several fields which identify the record type, record length, memory address, code, data and checksum, furthermore, each byte of binary data is encoded as a 2-character hexadecimal number is part of the S-record data structure [page 2, 0016-0019];

'generating a plurality of data segments, each of the plurality of data segments comprising a segment header and a data field, the segment header descriptive of the corresponding data segment ' [page 2, col 1, 0015, line 2-5], Sharon specifically teaches records holding a description of file or a data containing program code in a specific location or address, further data segment typically one of the section of data or code as detailed in page 2, col 1, 0015;

'attaching a data structure descriptor to the plurality of data segments, the data structure descriptor descriptive of the data structure' [page 1, col 2, 0014-0015, fig 2], Sharon specifically suggests each s-record file is individually identified and labeled for example type, record length, address, code/data and checksum is part of the descriptive of the data structure;

'identifying a target data set within the data field'[page 2, col 1, line 3-5], target data set corresponds to target system where data to be loaded as detailed in page 2, col 1, line 3-5;

'storing a location of the target data set in the data structure descriptor' [page 2, col 2, 0025, line 4-5].

31. As to claim 19, 30, Sharon disclosed ' storing a customizable directory descriptor and providing a directory of the data stored in each of the data fields within the data structure' [page 2, col 1, 0021]..

32. As to claim 20,31, Sharon disclosed 'storing a bootstrap executable and identifying a location of a second target data set within the data structure using the customizable directory descriptor' [page 1, col 1, 0004, page 2, col 1, 0021].

33. As to claim 21, 32, Sharon disclosed ' accessing the second target data set within the data structure' [page 1, col 1, 0004].

Art Unit: 2166

34. As to claim 22, 34, Sharon disclosed 'generating the plurality of data segments comprises generating an alignment data segment and aligning the size of the data structure for at least one of error detection and correction' [page 1, col 2, 0014].

35. As to claim 23, 36, Sharon disclosed 'communicating the self descriptive binary data structure between a source communications device and a target communications device' [fig 1, page 1, col 2, 0012, line 1-3].

36. As to claim 25, 38, Sharon disclosed 'processing an executable that is stored in the self-descriptive binary data structure'[page 1, col 2, 0012, line 1-8].

37. As to claim 26, 39, Sharon disclosed ' processing an executable comprises processing a bootstrap executable, the bootstrap executable configured to access a code image within the data structure' [page 1, col 1, 0004].

38. As to claim 27, Sharon teaches a system which including 'a method for communicating binary data' [see fig 1, Abstract]:

'providing a self-descriptive binary data structure at a source communications device' [fig 1, page 1, col 2, 0012, line 1-8], Sharon specifically teaches target and host or source system connected to a communication link as detailed in fig 1, further, Sharon also suggests common formats for transport program particularly, "Intel standard HEX" files as well as s-records [page 1, col 2, 0012],



'self-descriptive binary data structure having a customizable directory descriptor, the customizable descriptor configured to provide a directory of the data stored in each of the data fields within the data structure' [page 2, col 1, 0021], Sharon teaches "binary data structure" particularly referred to as "iAN files", further, typically binary data structure is identified with specific records for example s1,s2,s3 and each record has record length, address portion, code/data portion and like is part of the data structure and directory of the data stored ;

'communicating the self-descriptive binary data structure between source communication device and a target communication device via a communications network' [fig 1 page 1, col 2, 0012, line 1-3, 0013]

'processing the self-descriptive binary data structure at the target communications device executing a bootstrap executable, the bootstrap executable configured to reference the customizable directory descriptor and to identify a location of a second target data set within the data structure using the customizable directory descriptor'[page 1, col 1, 0004, page 2, col 1, 0021, fig 1-2] .

39. As to claim 33, Sharon disclosed 'wherein the data structure descriptor comprises at least one of data structure version descriptor' [page 1, col 1, 0003], 'a data structure name descriptor' [page 1, col 2, 0013, line 1-2], 'a data structure type descriptor' [page 1, col 2, 0013], and a data structure count descriptor' [page 2, col 1, 0015, line 2-5].

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

***40. Claims 15,24,28,37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharon et al. [hereafter Sharon], US Publication No. 20030229707 filed on June 6, 2002, published on Dec 11,2003 as applied to claim 13,18, 29 above, further in view of Brown, US Patent No. 6839825***

41. As to claim 15,24,28,37 Sharon disclosed 'the source communication device is further configured to generate the self-descriptive binary data structure fig 5, page 2, col 2, col 1, 0022, line 1-2, 0026, line 1-4 ], however, Sharon does not specifically teach 'a non-binary data structure'. On the other hand, Brown disclosed "non-binary data structure' [col 1, line 66-67, col 2, line 1-2, fig 2A].

It would have been obvious to one of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of Brown into rapid file transfer to embedded system of Sharon et al. because both Sharon and Brown specifically teach "binary data structure' [see Sharon: page 2, col 2, 0021, fig 2-3; Brown: col 2, line 33-

Art Unit: 2166

35], both Sharon and Brown suggests embedded memory system [Sharon: page 1, col 2, 0012, line 1-3; Brown: col 1, line 23-25].

One of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of Brown into rapid file transfer to embedded system of Sharon et al. because that would have allowed users of Sharon's data structure to implement segments physically mapped into binary memory structure , further portion of the non-binary width data structure stored per logical row in the first binary memory block stores twelve entries, while the width of the entry is 21-bits, the non-binary data structure stores 16 entries and n is 15 [col 2, line 22-32], thus bringing the advantages of minimizing memory required for storing non-binary width data structures as suggested by Brown [col 1, line 58-61].

### ***Conclusion***


#### **The prior art made of record**

- a. US Pub.No. . 20030229707
- b. US Patent .No. . 6839825

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srirama Channavajjala whose telephone number is 571-272-4108. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:30 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alam, Hosain, T, can be reached on (571) 272-3978. The fax phone numbers for the organization where the application or proceeding is assigned is 571-273-8300 Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)

SC  
Patent Examiner.  
June 7, 2006.

  
**SRIRAMA CHANNAVAJJALA**  
**PRIMARY EXAMINER**